

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-25 (canceled):

Claim 26 (new): A device (5) for the heating of a liquid in a beverage machine comprising:

a tube (24) or flat base(30) arranged so that liquid can traverse the tube or flat base for being heated;

a first individual resistor (R1) placed on a portion of the tube (24) or flat base (30) to heat liquid at a first temperature; and

a set of at least two resistors (R2, R3) is placed on a portion of the tube or flat base to heat the liquid from said first temperature to a final desired temperature, wherein said set of at least two resistors (R2, R3) is electrically linked together so that one resistor (R2) can be empowered either individually or in serial mounting with one or more of the resistors (R3) of the same set, and wherein the first individual resistor (R1) can be empowered either individually or in parallel mounting with one resistor (R2) of said set of resistors or in parallel mounting with a serial mounting of said set of resistors (R2, R3).

Claim 27 (new): A device according to claim 26, wherein the system of resistors is disposed on a tube (24), the liquid flowing in said tube.

Claim 28 (new): A device according to claim 27, wherein the device (5) comprises a cylindrical insert (23) that is disposed inside the tube (24) along the tube's entire length and substantially along the tube's axis of symmetry.

Claim 29 (new): A device according to claim 27, wherein the insert (23) comprises helicoidal grooves (25) on the insert's outside surface.

Claim 30 (new): A device according to claim 27 , wherein a spring is disposed around the insert (23).

Claim 31 (new): A device according to claim 27, wherein the ratio of the length to the diameter of the tube (24) is between about 5 and about 40.

Claim 32 (new): A device according to claim 28, wherein the insert (23) is an insulated material selected from the group consisting of plastic, metal, ceramic and combinations thereof.

Claim 33 (new): A device according to claim 28, wherein the insert (23) is fixed or can be rotated along the insert's axis of symmetry.

Claim 34 (new): A device according to claim 28, wherein the insert (23) is rotated because of the insert's connection with a rotating wheel of a flowmeter disposed at the lower part of said insert.

Claim 35 (new): A device according to claim 34, wherein the rotatable cylindrical insert (23) comprises a wire brush.

Claim 36 (new): A device according to claim 26, wherein the system of resistors (R1, R2, R3) is disposed on a flat base (30), wherein liquid flows through channels (33) that are positioned along the resistor tracks.

Claim 37 (new): A device according to claim 36, wherein the channels (33) for the flowing of the liquid have a reduced section area so that the liquid flow reaches a turbulent flow.

Claim 38 (new): A device according to claim 26, wherein the different electrical resistors are in a form selected from the group consisting of wires resistors, thick-film resistors and combinations thereof.

Claim 39 (new): A device according to claim 26, wherein all the electrical resistors have a power density of up to 15 to 70 Watt/cm².

Claim 40 (new): A device according to claim 27, wherein the hollow tube (24) comprises enamel painting on the hollow tube's outside under the resistors.

Claim 41 (new): A device according to claim 26, wherein the electrical resistors are covered or insulated with an electrically non-conductive material.

Claim 42 (new): An apparatus for the heating of a liquid comprising:
a liquid supply;
a device according to claim 1 for heating the liquid;
a pump for supplying said liquid to the device, wherein said liquid flows from the water supply through a tube or channels in said apparatus; and
a way for the exit of heated liquid, either on a substance to be extracted or in a mixer to mix said heated liquid with a powder.

Claim 43 (new): A process for heating the system according to claim 42, wherein the electricity power in resistors and/or set of resistors is controlled so as to provide to the liquid the required energy in real-time to reach the liquid target temperature according to the energy balance.

Claim 44 (new): A process according to claim 43, wherein the flow-rate is between 50 and 300 ml/min for a coffee machine and between 300 and 5000 ml/min for a vending machine.